

## SPECIMEN COLLECTION GUIDE

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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### ANAEROBIC

SPECIMEN	CONTAINER	TECHNIQUE	COMMENTS
Actinomyces: (anaerobic)	a. Anaerobic transport (Anaerobic container available in Central Supply) b. Sterile swab with specimen for smears.	Aspirate pus with syringe from sinus tract or abscess; use gauze for sulfur granules (may be seen in dressing).	Fistulating chronic infection often in neck, jaw or upper chest; history of "lumpy jaw"; sometimes abdominal lesions.
Body Fluids, secretions, Pus: (anaerobic)	a. Anaerobic container  b. Sterile swab with specimen for smears.	Decontaminate skin; Aspirate without air; DO NOT <u>leave</u> <u>needle on syringe</u> , cover with plastic sleeve or rubber stopper, or collect in anaerobic container.	Do not refrigerate; immediately transport to lab; indicator in anaerobic transport should be colorless at 30 min. after collection.
Respiratory Tract: (anaerobic)	a. Anaerobic container  b. Sterile swab with specimen for smears.	Transtracheal aspirate, pleural or empyema fluid only; 1ml if possible; collected by a physician.	History of aspiration or foul smelling sputum.
Tissue: (anaerobic)	a. Anaerobic container or immediate delivery to Microbiology Dept. in sterile container	Multiple area cultures indicated for gas gangrene; do not add fluid.	Larger specimens (1 cm) will tolerate short exposure to air; bacilli may not be distributed throughout testing area.

### AUTOPSY MATERIAL

SPECIMEN	CONTAINER	TECHNIQUE	COMMENTS
Blood: (autopsy)	Sterile blood culture bottles.	10 ml of right heart blood collected either through skin or chest wall or through unopened heart from right ventricle after removal of sternum; decontaminate skin or sear surface before inserting needle; a block of spleen may be substituted for blood culture.	Best collected before body handled too much or opened; need clinical diagnosis, post-mortem interval, autopsy impression, previous positive culture and infection suspected; autopsy cultures are often contaminated.

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Tissue: (anaerobic)	Sterile container.	If possible, submit six cm with one aerosol or other surface; in lab aseptically cut one cm from suspicious area including normal tissue.	Aseptic collection may be difficult. Coccidiomycosis and TB are often discovered only at autopsy.
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## BLOOD

SPECIMEN	CONTAINER	TECHNIQUE	COMMENTS
Peripheral:	Blood culture bottles: Aerobic and Anaerobic bottles with resin	Skin decontamination with Betadine and alcohol; sterile venipuncture; do not draw through catheter or cannula; draw two bottles each time; three samples per 24 hrs., or 4 to 6 in 48 hrs. For resin FUO: no specimen closer than one hour. Do not refrigerate; mark bottle with name, date and time. Use alcohol on top of bottle. DO NOT USE BETADINE ON BOTTLE STOPPER.	Need clinical diagnosis, antibiotic, chemotherapy, and immune status. For critical patients, two collections, 15 minutes apart.
Bone Marrow:	Blood culture bottles, TB and Fungus requires special media.	Sterile precautions. Draw one ml or more; make direct smears; place in blood culture bottle. See SGSAH OI 160AS-020 for more details.	Recommended for diagnosis of miliary TB, systemic histoplasmosis and other fungus infections.

## BODY FLUIDS

SPECIMEN	CONTAINER	TECHNIQUE	COMMENTS
(Other than blood, urine, CSF)			
Bile:	Sterile container and sterile swab.	Submit several ml aspiration with syringe during surgery, from post-op drainage site, or via nasogastric tube from duodenum; duodenal aspirate is sometimes submitted for special tests (over growth of coliform).	Sample may contain gallstones, which should be examined; first ml from post-op site often contains contaminants; helpful to know if for possible <i>Salmonella</i> or <i>Clostridium</i> infection.
Hematomas:	Sterile tube or Blood culture bottles.	Skin decontaminated; sterile aspiration (2-5 ml) with syringe.	May clot; when in doubt use sterile anticoagulant, use in unsuspected abscess.
Joint Fluid:	a. Submit in sterile tube OR  b. 2 aerobic swabs AND c. 1 anaerobic swab or container	Same as above	Often proteinacious, may clot; do not add acetic acid or fluid which may precipitate protein; helpful to know if history of trauma, previous surgery or infection. Prefer sterile tube.

<b>SPECIMEN</b>	<b>CONTAINER</b>	<b>TECHNIQUE</b>	<b>COMMENTS</b>
Peritoneal Fluid:	Same as Pericardial Fluid.	Same as above	Same as for joint fluid; specimen may be peritoneal dialysis fluid.
Pleural Fluid:	Same as Joint Fluid.	Sterile aspiration	
Vascular Cannulae, central venous pressure lines umbilical or intra-venous:	Sterile tube	Decontaminate skin; sever aseptically just inside skin interface. If catheter interface is 2-3" send one segment of 2". If catheter is 8-24", send two segments of 2" (one from skin interface and one from with vessel).	Occasionally are removed because of sepsis or fever that is kept going because of a colonized catheter tip. Yeasts are the most common isolate from hyperalimentation lines; helpful to know if history of infection.

## **CENTRAL NERVOUS SYSTEM**

<b>SPECIMEN</b>	<b>CONTAINER</b>	<b>TECHNIQUE</b>	<b>COMMENTS</b>
Brain Biopsy:	Same as anaerobic cultures.	See tissue.	Suspected cryptococcosis; or herpes needs coordination with Pathologist.
CSF:	Sterile tube	Sterile lumbar puncture; ventricular or suboccipital tap; several ml, if possible. Do not use tube #1. Last tube collected is preferred.	Tentative clinical diagnostic and/or suspicion needed.
Meningo myelocele:	Sterile tube	Decontaminate skin; sterile aspiration through the skin; often only one specimen.	Fluid is more frequently contaminated or infected than regular spinal fluid.
Shunt Fluid:	Sterile tube	Skin and Catheter decontamination; sterile aspiration through shunt.	Often contaminated infected with skin flora.
<b>EAR</b>			
Internal:	2 Sterile swabs	Cleanse external canal with mild antiseptic; collect specimen through sterile funnel from ear drum for acute or chronic otitis.	If eardrum is not perforated, specimen should be collected by otolaryngologist or other physician.
External Ear:	2 sterile swabs	Cleanse external canal with mild detergent; obtain specimen from an active margin, preferably including fresh secretion from deeper area.	Surface swabbing might miss streptococcal cellulitis erysipelas.

## **EYE**

<b>SPECIMEN</b>	<b>CONTAINER</b>	<b>TECHNIQUE</b>	<b>COMMENTS</b>
Internal:	Sterile swab OR Media from lab	Surgical technique: label carefully whether left or right eye. May use direct inoculation during surgery.	Since specimen is usually small and obtained under great difficulty, speed in transport and care in handling are very important; history of trauma or post-op infection.

## GENITAL TRACT FEMALE

SPECIMEN	CONTAINER	TECHNIQUE	COMMENTS
Amniotic Fluid:	Sterile tube	Aspirate with syringe	Treat as any other normally sterile body fluid; may contain <i>N. gonorrhoeae</i> ; important in premature rupture of membrane greater than 24 hours.
Cervix:	a. For <i>N. gonorrhoeae</i> , immediate planting on modified T-M media (obtain from lab); streak with a single large "Z" configuration. Deliver to lab within 15 min. b. Sterile swab.	Wipe cervix clean of vaginal secretion and mucus; under direct vision, gently compress cervix with blade of speculum and use a rotating motion with swab. Obtain exudate from endo-cervical glands.	Viability of GC organism in transport medium is less. Note history of venereal disease, pelvic inflammatory disease. If culture purpose is to R/O beta strep, write this on request.
Cul de sac (Culdoncentesis)	a. Anaerobic transport container. b. Sterile swab. c. If PID-Modified T-M plate, deliver plate to lab within 15 minutes.	Surgical procedure: aspiration of fluid, secretion through posterior vaginal wall.	Used to help diagnose venereal disease, pelvic inflammatory disease.
Endometrium:	Same as above.	Prepare as for cervix; if swabs are to be used, insert through a sterile tube sheath.	Likelihood of external contamination is high for cultures obtained through the vagina; note if post partum fever or venereal disease history.
Intrauterine Device:	Sterile container containing entire device plus secretion.	Sterile removal.	Consider anaerobic culture; unusual organisms may be isolated; e.g., <i>Actinomyces</i> , <i>Torulopsis</i> , and other yeasts; history of bleeding.
Products of conception (fetal tissue) placenta, membranes:	a. Sterile container.	Sample suspicious areas of tissue or aspirate if contaminated; use autopsy tissue sampling technique.	Occasionally this type of specimen is expelled into toilet and is grossly contaminated.
Urethra:	b. 2 sterile swabs Modified T-M media preferred for G.C. Streak with a single large "Z" configuration, sterile swab. Deliver to lab within 15 minutes.	Collect an hour or more after urinating; if discharge cannot be obtained, use swab to collect material from about 2 cm inside urethra.	On females, discharge may be stimulated by gently stripping and massaging urethra against pubic symphysis through the vagina. Gram stains for GC on females are very inaccurate (pos or neg), therefore of little value. They are not performed in the lab.
Tubes, Ovaries:	a. Anaerobic transport container b. Sterile swab	Surgical tissue, aspirates, or swabs.	Consider venereal, fungal anaerobic and AFB Infection.

SPECIMEN	CONTAINER	TECHNIQUE	COMMENTS
Vagina:	a. Sterile swab	Use speculum without lubricant; swab mucosa high in vaginal canal; or use simple aspiration.	Ulcerations should be checked out for syphilis, soft chancre, or genital herpes. Yeast common. Wet mount is for yeast and <i>Trichomonas</i> . "Clue Cells" and role of <i>Gardnerella vaginalis</i> are controversial.
	b. Wet mount in saline for <i>Trichomonas sp.</i> and fungal elements.		
	c. For GC use cervical specimen		
Vaginal cuff:	a. Anaerobic transport container AND b. Sterile swab	Aspirate	
Vulva (including labia, Bartholin's glands):	a. Anaerobic transport container AND Sterile swab OR 2 sterile swabs.	Do not use alcohol for mucous membranes; skin prep for regular skin sites; collect with swab or aspirate with syringe and needle.	

## GENITAL TRACT MALE

SPECIMEN	CONTAINER	TECHNIQUE	COMMENTS
Lymph nodes:	Same as for female genital tract.		
Penile Lesion:	2 swabs	Swab if pus.	
Prostatic Fluid:	Secretion in sterile tube or on swabs.	a digital massage through rectum	Not recommend for GC. Helpful for other cultures.
Urethra:	Secretions, slide and/or swab. If GC suspected, streak Modified T-M media with a single large "Z" configuration. Deliver T-M plate to lab within 15 minutes.	Thin urethrogenital alginate swabs are preferred.	In males the presumptive diagnosis of gonorrhea can often be made from Gram stain. For Herpes, refer to "Virus" Section below.
Pus/Abscess:	See Anaerobic culture, and skin (Deep suppurative lesion).		

## INTESTINAL

SPECIMEN	CONTAINER	TECHNIQUE	COMMENTS
Duodenal Contents:	Several ml in sterile tube.	Aspirate through tube.	Examine for bacterial overgrowth of <i>Salmonella typhi</i> and certain parasites.
SPECIMEN	CONTAINER	TECHNIQUE	COMMENTS
Feces:	For Gross Appearance: Clean, waxed cardboard container with tight cover or clean transport vial.	One gram on 3 alternate days; if collected in sterile bedpan must not be contaminated with urine, residual soap or disinfectant. Not acceptable if: less than 10 days since barium or bismuth; container is leaking; mixed with urine. Bacteria cultures should not be refrigerated.	Transport to lab immediately. Note travel, food, and suspected etiology. DO NOT submit diaper - most brands contain anti-bacterial additives.
	For Occult Blood: Hemocult Card		
	For Bacteria: Commercial vials		
	Transport Media		
	For Parasites: Commercial vials (one vial is 10% Formalin and one vial is PVA)		
	For Cryptosporidium: 10% Formalin	Cryptosporidium stain	Special stain required - sent to reference lab.
Rectal swab:	Swab (if possible 3 consecutive days)	Swabs of lesions of rectal wall during proctoscopy	Not useful for detection of non-symptomatic patients
Gastric aspirate, neonate:	Sterile container	Collected by physician	History of ruptured membrane; may visualize and isolate causative agent of septicemia before blood cultures become positive.

## RESPIRATORY TRACT

SPECIMEN	CONTAINER	TECHNIQUE	COMMENTS
Throat/ pharynx:	Swab	Swab area of exudation, membrane formation, or inflammation. Rub tonsillar crypts vigorously.	Do not touch oral mucosa or tongue with swab. Will be cultured for group A Strep only, unless other etiologic agents requested. For N. gonorrhea, submit on T-M plate.
Epiglottitis:	Swab		Do not swab throat in case of acute epiglottitis unless prepared for tracheostomy.
Nasal sinuses:	a. Anaerobic transport AND b. 2 sterile swabs.		
Nasopharynx:	Thin wire or flexible swab, pharynx - obtain from laboratory.	Swab is passed through nose gently and into naso stay near septum and floor of nose; rotate and remove	Transport to lab immediately. Note suspected agents such as <i>Bordetella pertussis</i> .

SPECIMEN	CONTAINER	TECHNIQUE	COMMENTS
Oral Cavity- Mucosal surface of gums & teeth:	Swabs and/or slide	Rinse mouth, scrape, swab for yeast or organisms	Culture for yeast; smear Vincents angina.
Dental abscess:	a. Anaerobic transport container AND  b. Sterile swab for smear.	Rinse mouth, prep with dry, sterile gauze; aspirate with needle and syringe.	Predominant pathogens are anaerobes including <i>Actinomyces</i> and various <i>Streptococci</i> .
Bronchoscopy:	Sterile container	Aspirate through inner chamber of bronchoscope brushing, transbronchial biopsies, bronchial secretions.	Does not give any higher yield of mycobacteria than expectorated sputum.
Lung, aspirate:	Anaerobic transport container.	Performed by physician; skin decontaminated; needle inserted through chest wall, transbronchoscopic needle biopsy or thoractomy.	Invasive procedure; process immediately
Sputum- expectorated:	Sterile container	Patient must cough deeply, best under direct supervision of physician or respiratory therapist, may require ultrasonic nebulization, hydration, physiotherapy or postural drainage.	May be refrigerated overnight; sputum with more than 25 squamous epithelial cells per low power field are not acceptable for culture; if sq. cell CA diagnosed, notify lab and culture will be performed regardless of cell count.
Transtracheal aspirate (infralaryngeal aspirate)	Sterile container	Performed by a physician. Skin is cleansed and anesthetized; a 14 gauge needle is inserted through the skin of the neck and the crico-thyroid membrane into the trachea. A small sterile catheter is passed through the needle and exudate aspirated.	Used for pneumonia and TB; process immediately.

## SKIN

SPECIMEN	CONTAINER	TECHNIQUE	COMMENTS
Superficial wound:	2 sterile swabs	Clean wound surface with 70% alcohol; swab or aspirate deep areas rather than lesion surface.	Clinical information very helpful. NOTE: Animal bite trauma, duration, travel.
Extensive burns:	Dermal punch biopsy in sterile container.	Clean wound surface with 70% alcohol	For quantitative culture 3-4 mm dermal punch.
Deep suppurative lesion (closed abscess):	Syringe or - Anaerobic transport container OR - 2 swabs	Aspirate directly into syringe.	Note duration & location. See anaerobic cultures.
Fistula, sinus abscess:	Anaerobic container OR 2 swabs	Clean surface, swab or aspirate deeply.	See Actinomycosis
Rash:	2 swabs	Clean surface with 70% alcohol; aspirate directly into syringe; if no fluid, instill small amount of sterile saline and aspirate saline. Transfer from syringe to 2 swabs.	Pus or fluid from periphery. Central area of rash may not yield bacteria.
Umbilicus:	Swab	No cleaning	Used to determine <i>S. Aureus</i> colonization.

## TISSUE

SPECIMEN	CONTAINER	TECHNIQUE	COMMENTS
Surgical or Biopsy:	Sterile container	Collected by physician; 5 to 10 mm cube or aspirate.	See anaerobes; do not discard leftover tissue; freeze in sterile broth until culture and pathology completed.

## URINE

SPECIMEN	CONTAINER	TECHNIQUE	COMMENTS
Clean-void:	Sterile, wide-mouth container: 1 ml if only for culture; at least 12 ml if urinalysis is also ordered.	Clean genital area well; void 20-30 ml; then collect specimen without stopping the stream.	Do not culture 24 hr urine; must be plated within 2 hrs of collection unless refrigerated.
Catheter urine or loop ileal urine:	Sterile container	Disinfect tubing with alcohol; aspirate through tubing with a syringe.	Same as Clean-Void urine.
Bladder urine (suprapubic cystoscopy):	Sterile container	Collected by physician by needle aspiration or cystoscopy.	Same as above.



**FUNGUS**

<b>SPECIMEN</b>	<b>CONTAINER</b>	<b>TECHNIQUE</b>	<b>COMMENTS</b>
Superficial Fungus:	Sterile closed containers clean paper envelopes or Dermatophyte Agar available from the laboratory.	Clean surface with 70% alcohol; pluck hair and/or scrape skin from periphery of area. Clip or scrape nail.	Specimen from center of area may give negative report. Note type fungus suspected.
Other fungal	Collect the same as for bacterial cultures.		Use separate request form for each (e.g. order fungus on separate slip from TB or routine culture).
KOH Prep:	Sterile cup.	Same as above.	Same as above.

**MYCOBACTERIUM (TB)**

<b>SPECIMEN</b>	<b>CONTAINER</b>	<b>TECHNIQUE</b>	<b>COMMENTS</b>
Sterile Body Source:			
- CSF:	Sterile container	Collected by physician	
- Bone Marrow or blood:	Heparin vacutainer tube.	Collected by physician	
Non-Sterile Body Source:			
- Sputum:	Container with screw cap inside plastic bag. Special containers available from laboratory Referral Section.	Early morning sputum. Instruct patient to clean containers' exterior with 70% isopropyl alcohol after expectorating. Rinse hands with alcohol and air dry.	
- Sputum, Acid Fast stain:	Sputum in sterile screw cap container inside plastic bag.	Same as above	Use separate MEDGP Form 207.

**VIRUS**

<b>SPECIMEN</b>	<b>CONTAINER</b>	<b>TECHNIQUE</b>	<b>COMMENTS</b>
Herpes:	Herpes collection tube available from lab Specimen Processing Dept.	Specimen collected by practitioner and sent to lab IMMEDIATELY.	Request on miscellaneous form required with DD 2161; preliminary report 48-72 hours.
Chlamydia:	Chlamydia swabs Different swabs for male and female.	Specimen collected by practitioner and sent to lab IMMEDIATELY.	Submit to lab for EIA procedure. Performed at Reference Lab.
RSV	Nasal swabs or washings submitted in duplicate.	Specimen collected by practitioner and sent to lab IMMEDIATELY.	Submit to lab for EIA procedure. If negative, duplicate specimen sent out for confirmation by culture.
Other Viruses	Viral Transport required - obtain from Lab.	Same as above.	Body site and suspected virus must be specified.

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